OIPE
JAN 26 2004
PATENT & TRADEMARK OFFICE

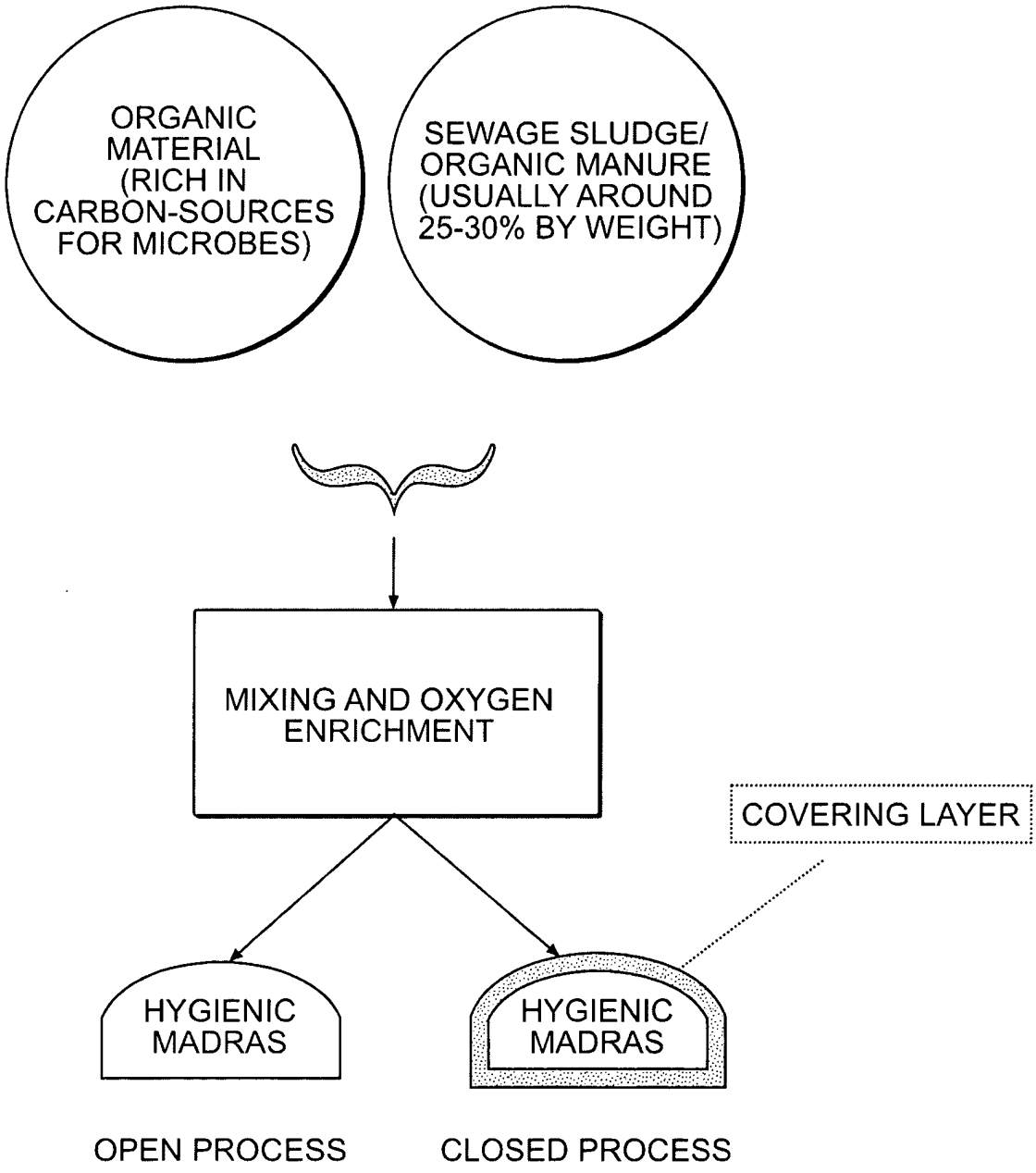

FIG. 1

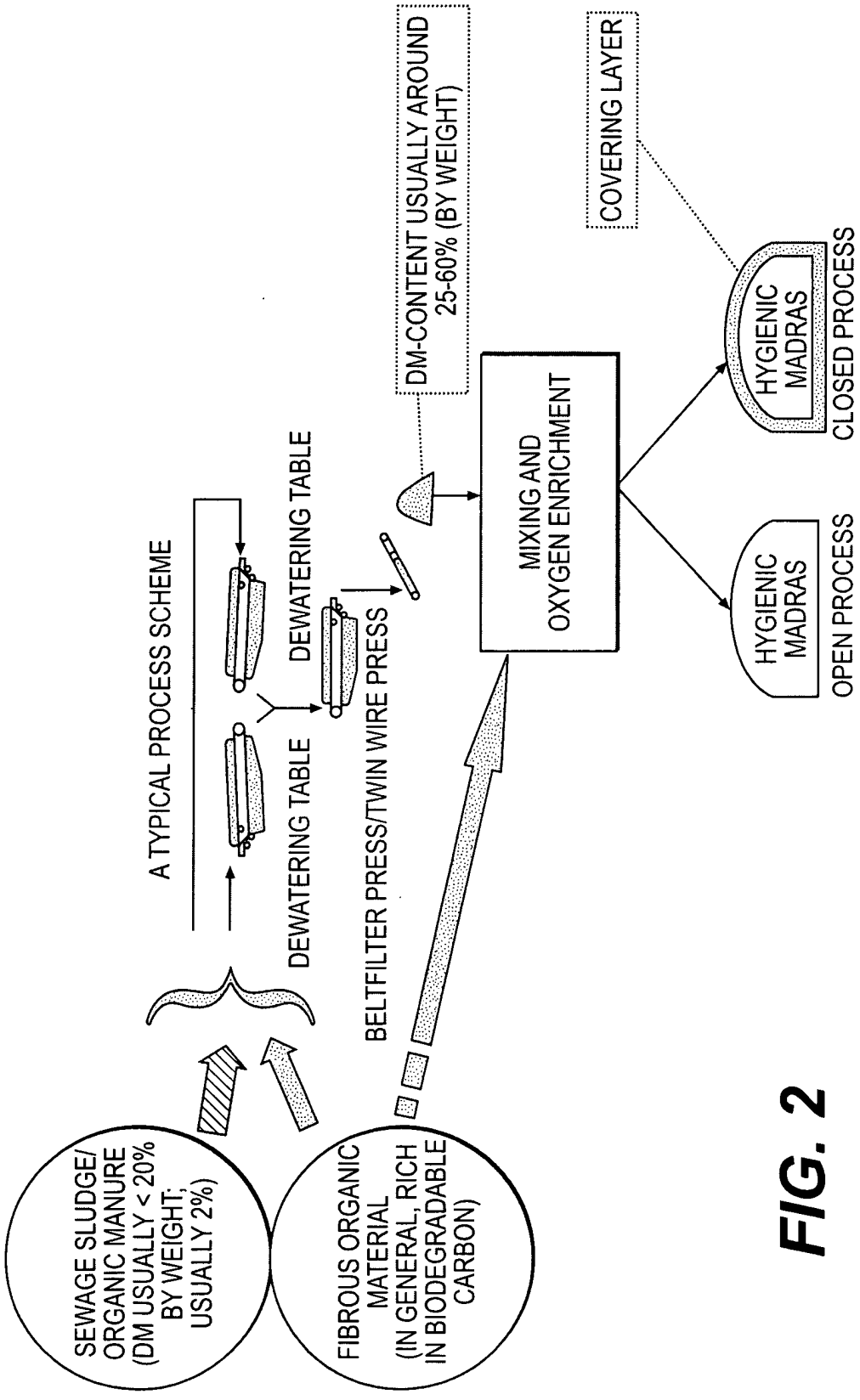
SEWAGE SLUDGE/
ORGANIC MANURE
(DM USUALLY < 20%
BY WEIGHT;
USUALLY 2%)
FIBROUS ORGANIC
MATERIAL
(IN GENERAL, RICH
IN BIODEGRADABLE
CARBON)
A TYPICAL PROCESS SCHEME
DEWATERING TABLE
DEWATERING TABLE
BELTFILTER PRESS/TWIN WIRE PRESS
DM-CONTENT USUALLY AROUND
25-60% (BY WEIGHT)
MIXING AND
OXYGEN ENRICHMENT
COVERING LAYER
HYGIENIC
MADRAS
CLOSED PROCESS
HYGIENIC
MADRAS
OPEN PROCESS

FIG. 2

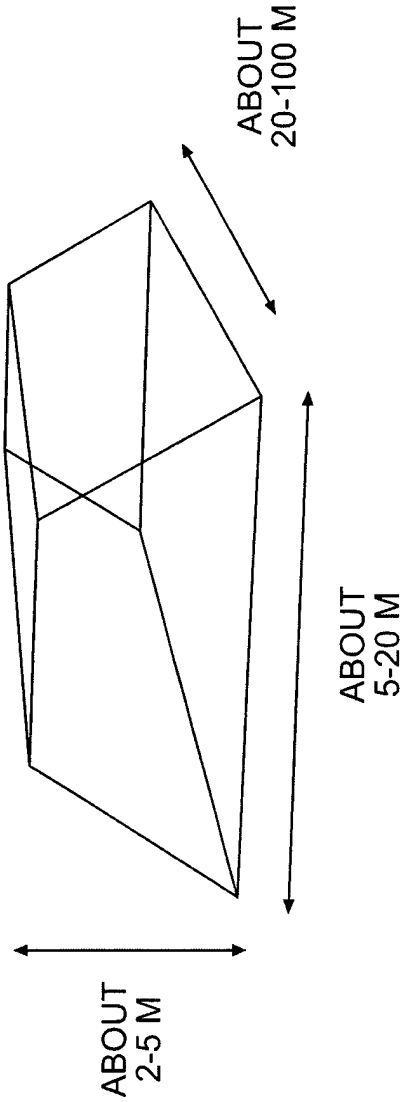

FIG. 3

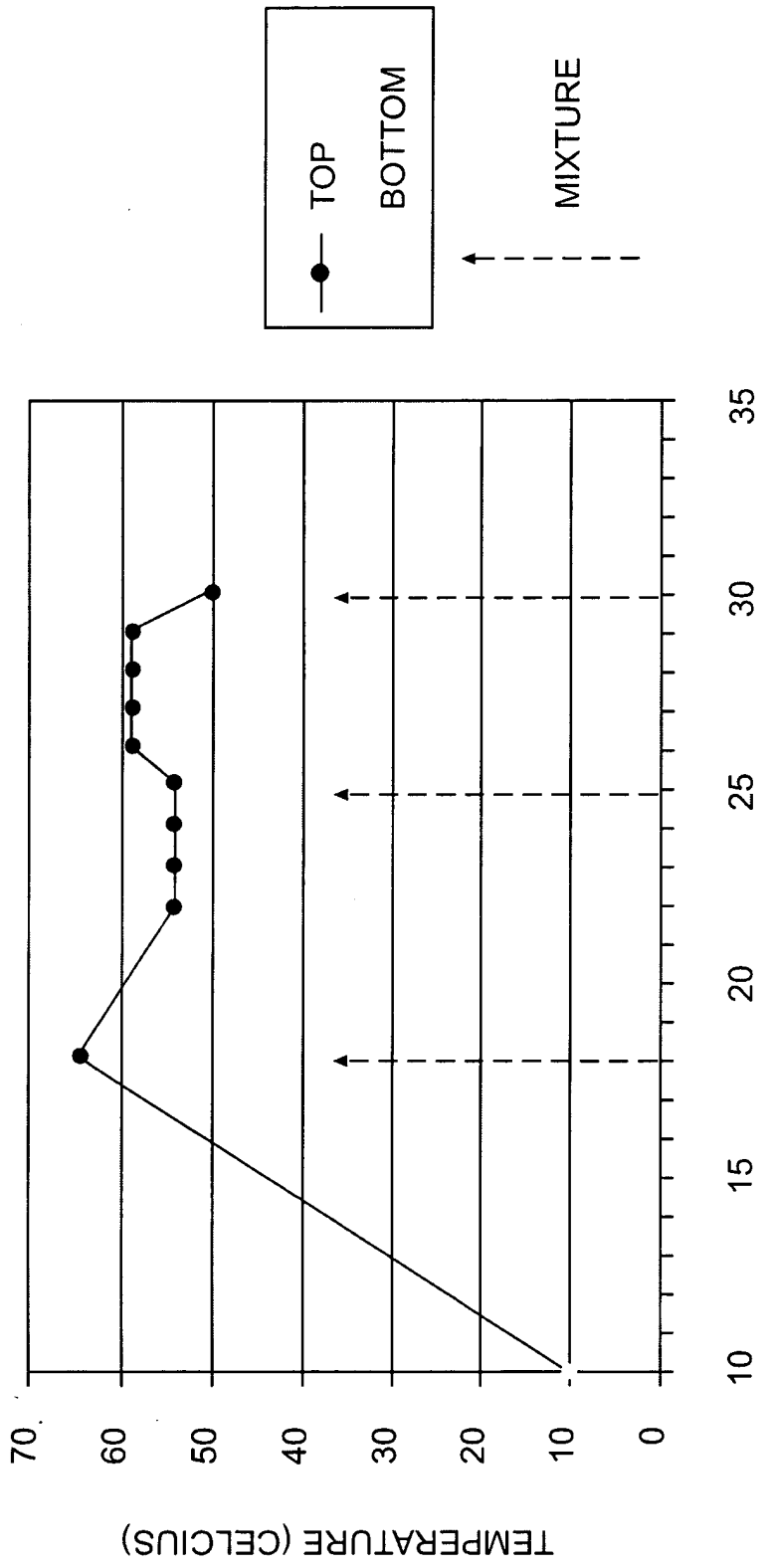
TOP
BOTTOM
MIXTURE
TEMPERATURE (CELCIUS)
70
60
50
40
30
20
10
0
10
15
20
25
30
35
WEEK Y 2002

FIG. 4

I. TEMPERATURE DEVELOPMENT TRIAL NR. 12; 0,5 M DEPTH

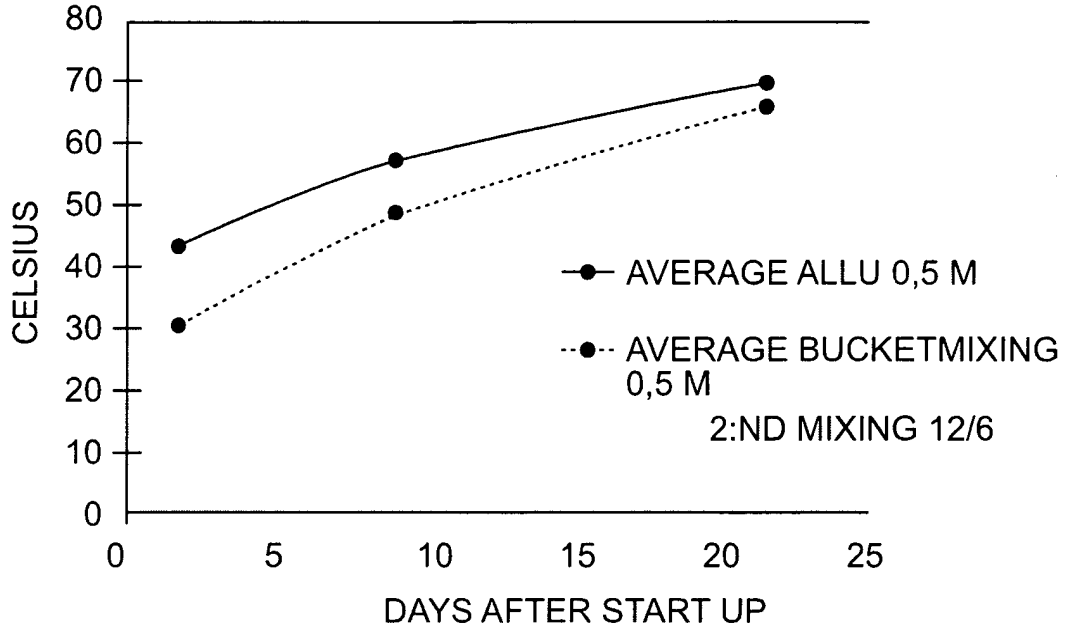

FIG. 5A

II. TEMPERATURE DEVELOPMENT TRIAL NR. 12; 1,0 M DEPTH

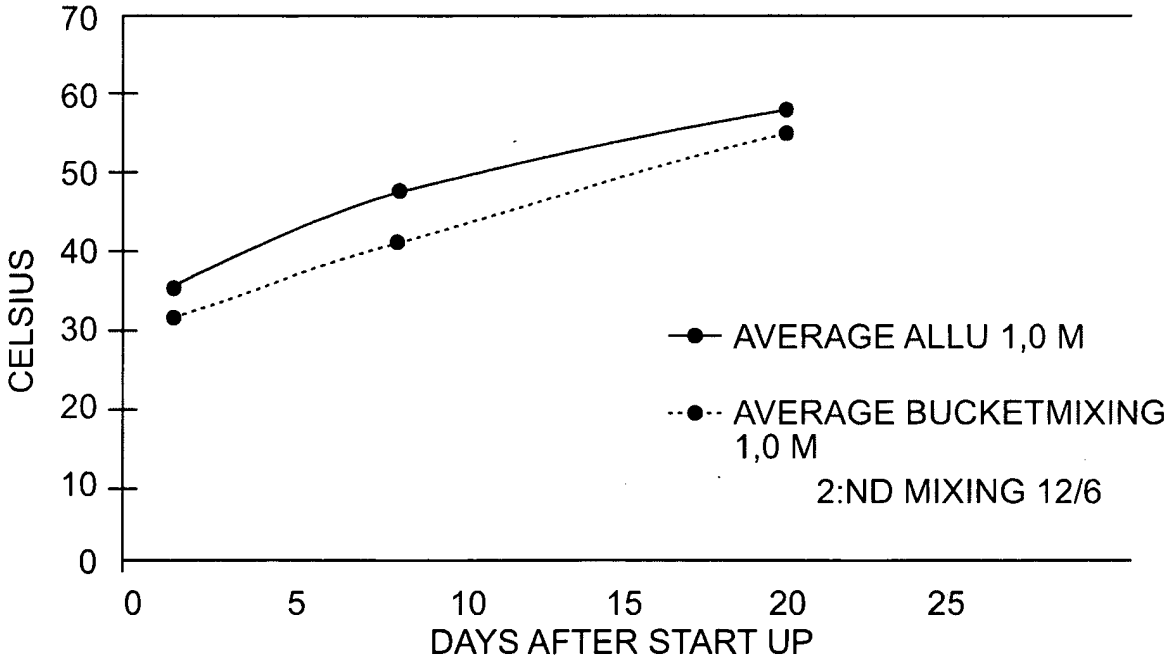

FIG. 5B

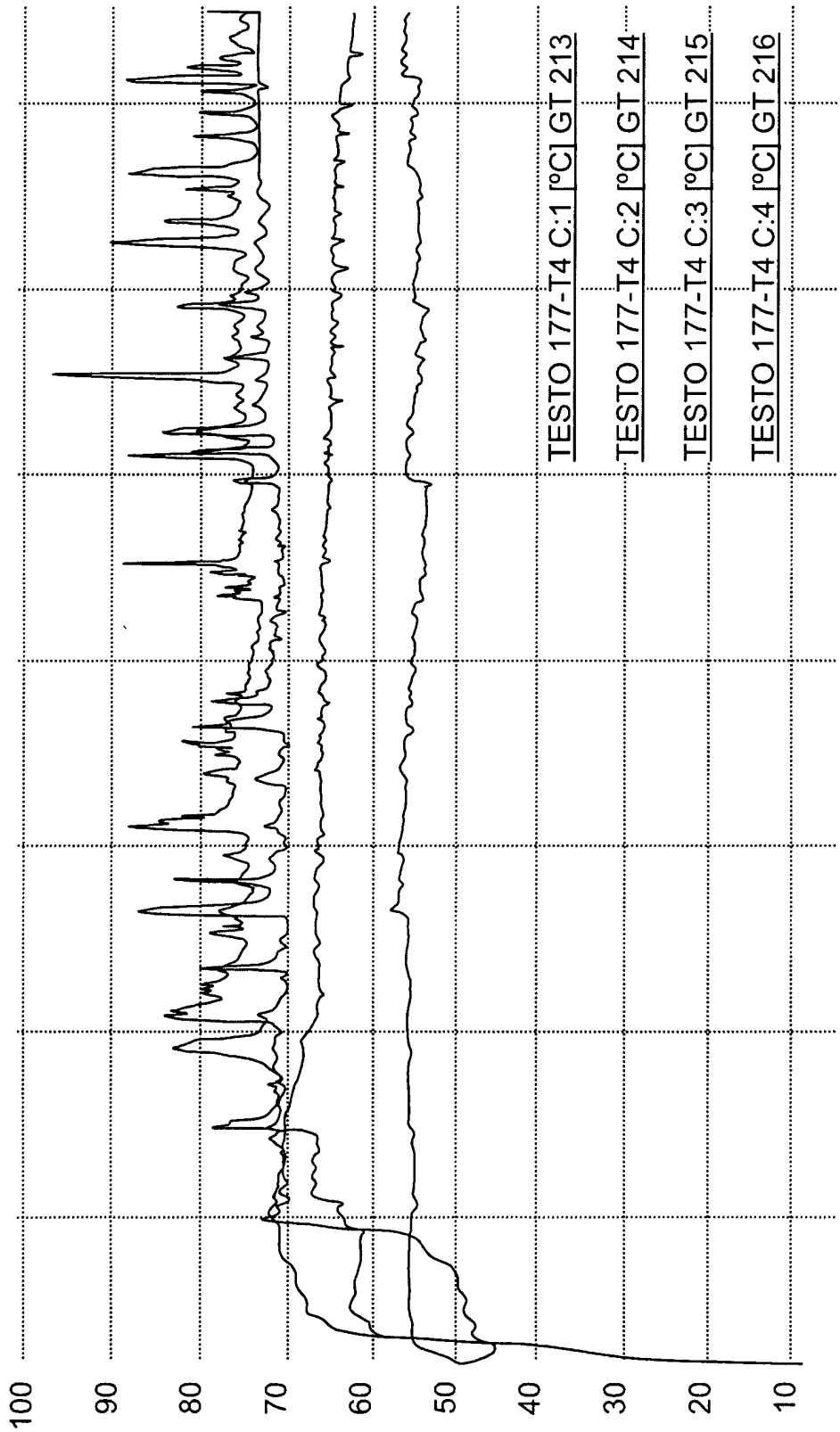
100
90
80
70
60
50
40
30
20
10
°C
2003-04-28 00:00:00
2003-05-05 00:00:00
2003-05-12 00:00:00
2003-05-19 00:00:00
2003-05-26 00:00:00
2003-06-02 00:00:00
2003-06-09 00:00:00
TESTO 177-T4 C:1 [°C] GT 213
TESTO 177-T4 C:2 [°C] GT 214
TESTO 177-T4 C:3 [°C] GT 215
TESTO 177-T4 C:4 [°C] GT 216

FIG. 6

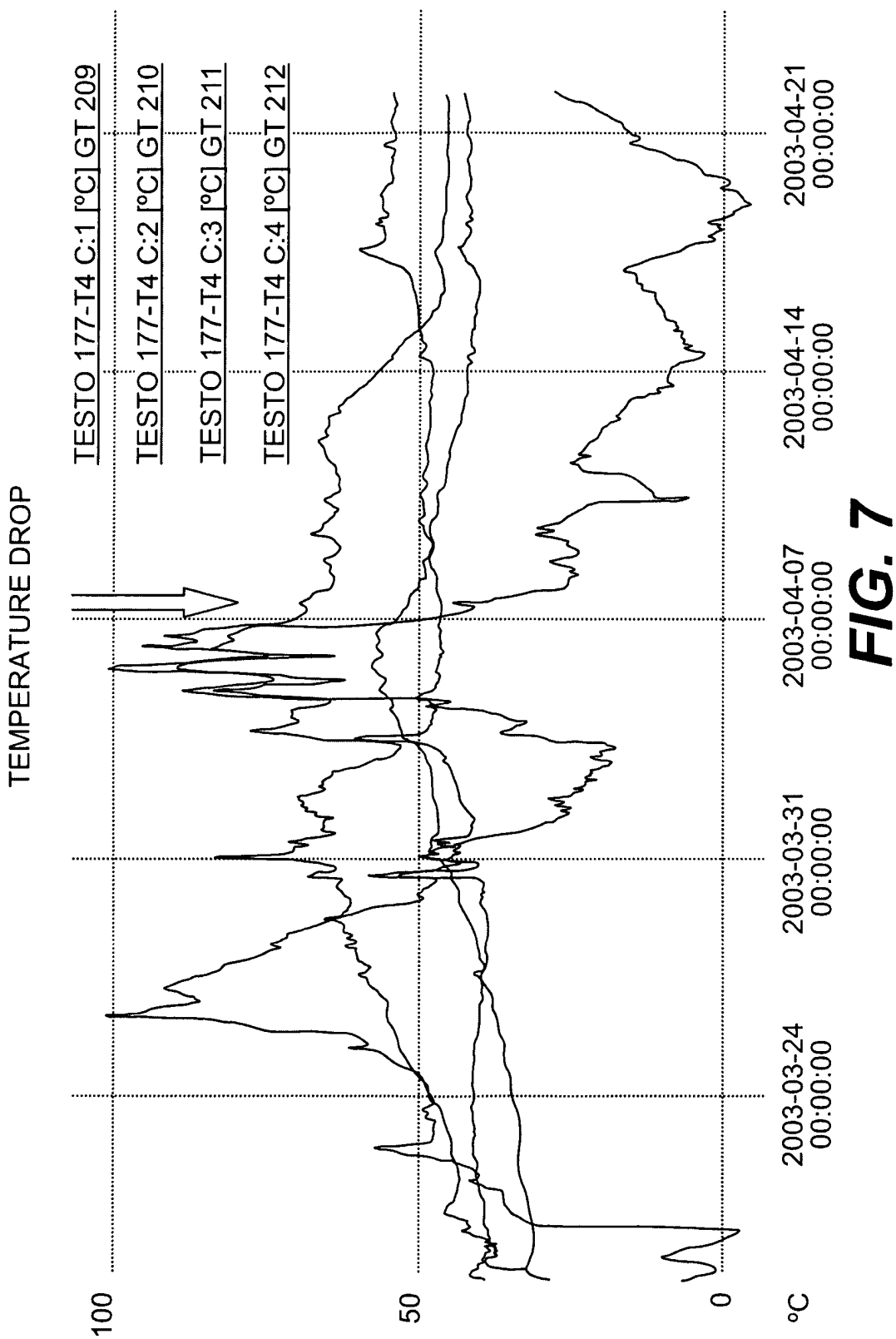
TEMPERATURE DROP
TESTO 177-T4 C:1 [°C] GT 209
TESTO 177-T4 C:2 [°C] GT 210
TESTO 177-T4 C:3 [°C] GT 211
TESTO 177-T4 C:4 [°C] GT 212
100
50
0
°C
2003-03-24 00:00:00
2003-03-31 00:00:00
2003-04-07 00:00:00
2003-04-14 00:00:00
2003-04-21 00:00:00

FIG. 7

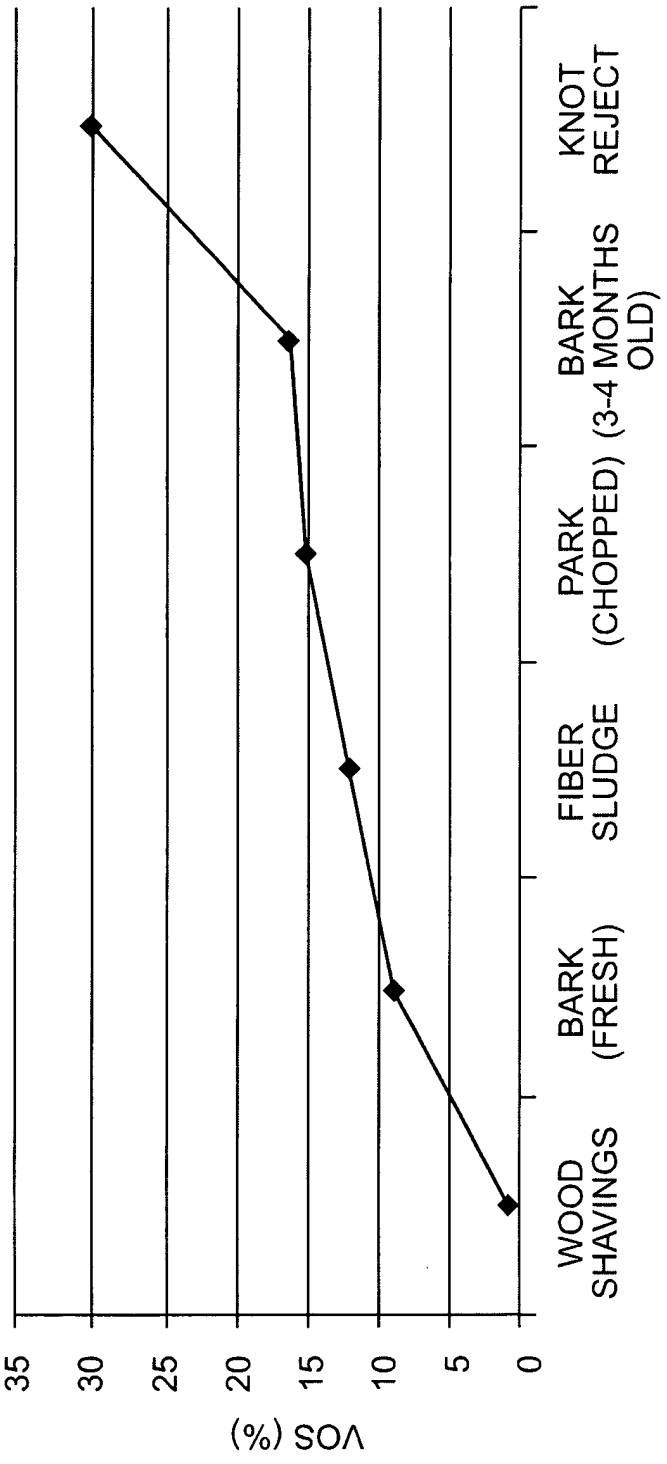
VOS (%)
35
30
25
20
15
10
5
0
WOOD SHAVINGS
BARK (FRESH)
FIBER SLUDGE
PARK (CHOPPED)
BARK (3-4 MONTHS OLD)
KNOT REJECT

FIG. 8

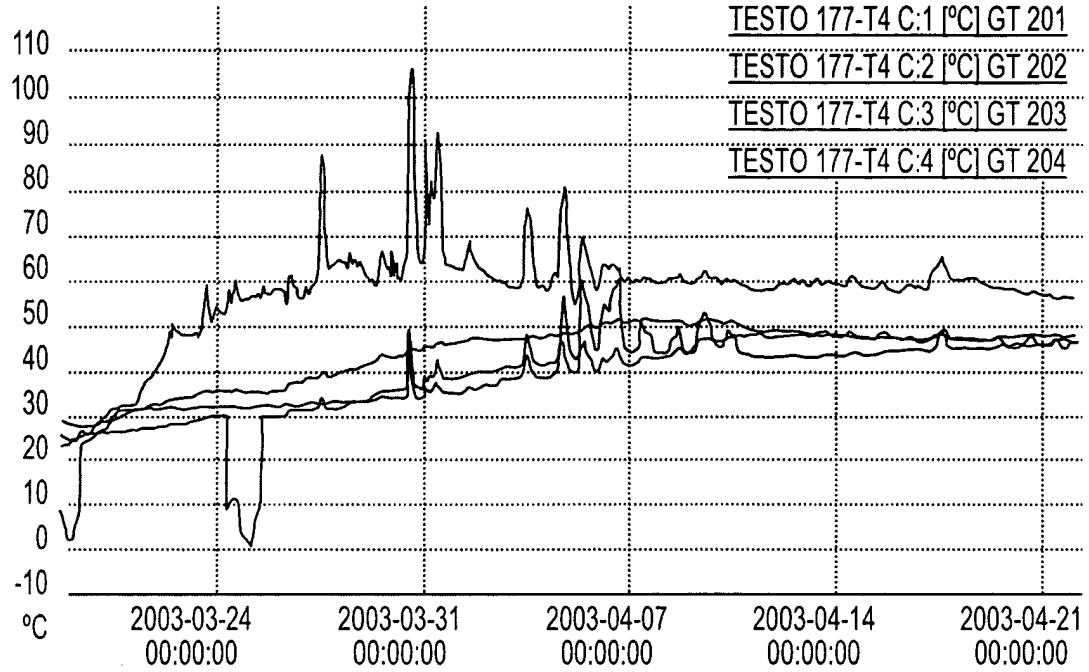
TESTO 177-T4 C:1 [°C] GT 201
TESTO 177-T4 C:2 [°C] GT 202
TESTO 177-T4 C:3 [°C] GT 203
TESTO 177-T4 C:4 [°C] GT 204
110
100
90
80
70
60
50
40
30
20
10
0
-10
°C
2003-03-24 00:00:00
2003-03-31 00:00:00
2003-04-07 00:00:00
2003-04-14 00:00:00
2003-04-21 00:00:00

FIG. 9A

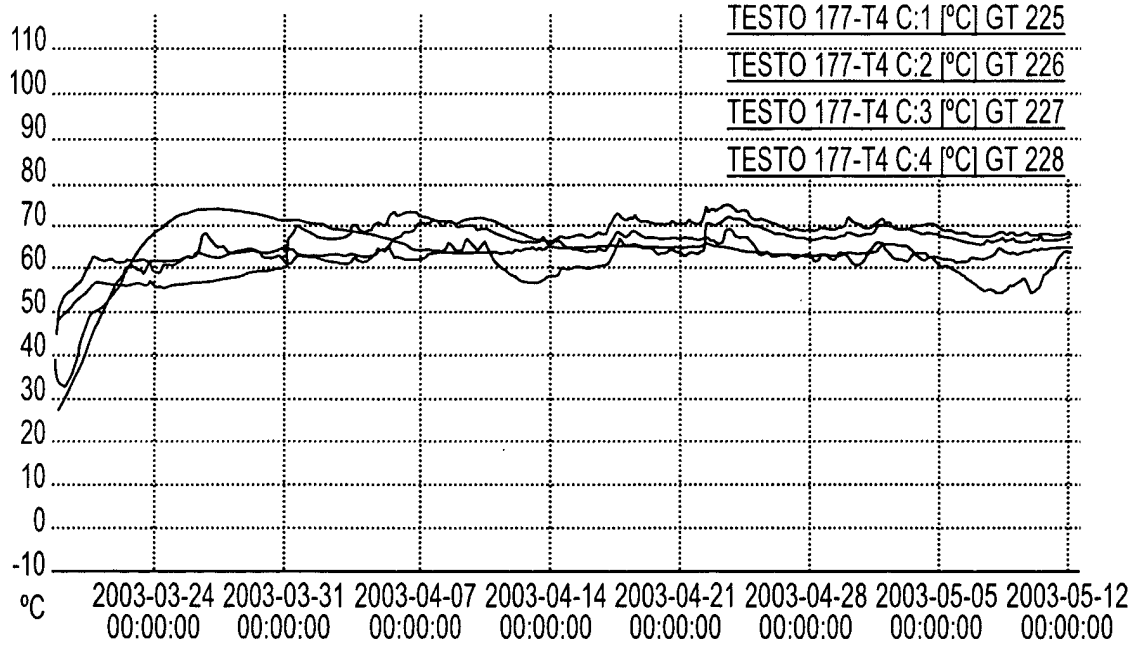
TESTO 177-T4 C:1 [°C] GT 225
TESTO 177-T4 C:2 [°C] GT 226
TESTO 177-T4 C:3 [°C] GT 227
TESTO 177-T4 C:4 [°C] GT 228
110
100
90
80
70
60
50
40
30
20
10
0
-10
°C
2003-03-24 00:00:00
2003-03-31 00:00:00
2003-04-07 00:00:00
2003-04-14 00:00:00
2003-04-21 00:00:00
2003-04-28 00:00:00
2003-05-05 00:00:00
2003-05-12 00:00:00

FIG. 9B

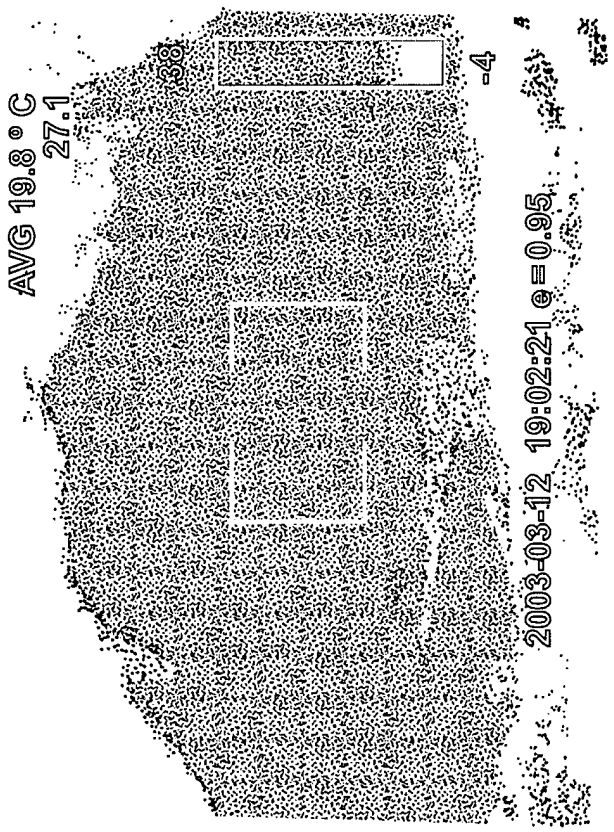

FIG. 10

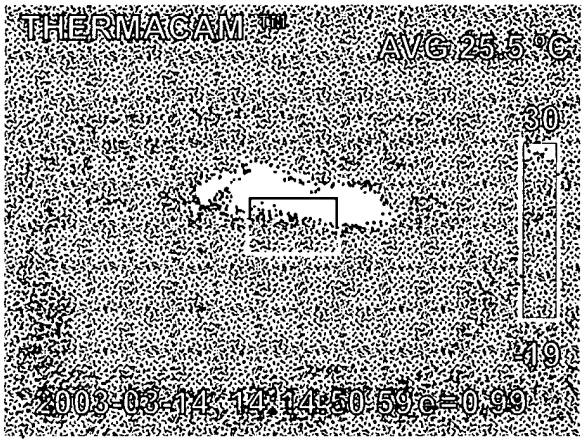

FIG. 11A

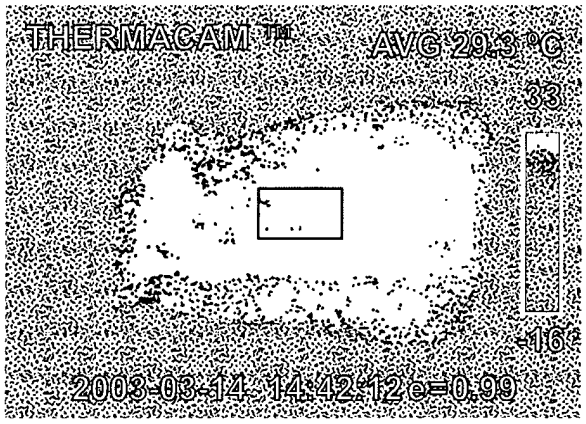

FIG. 11B

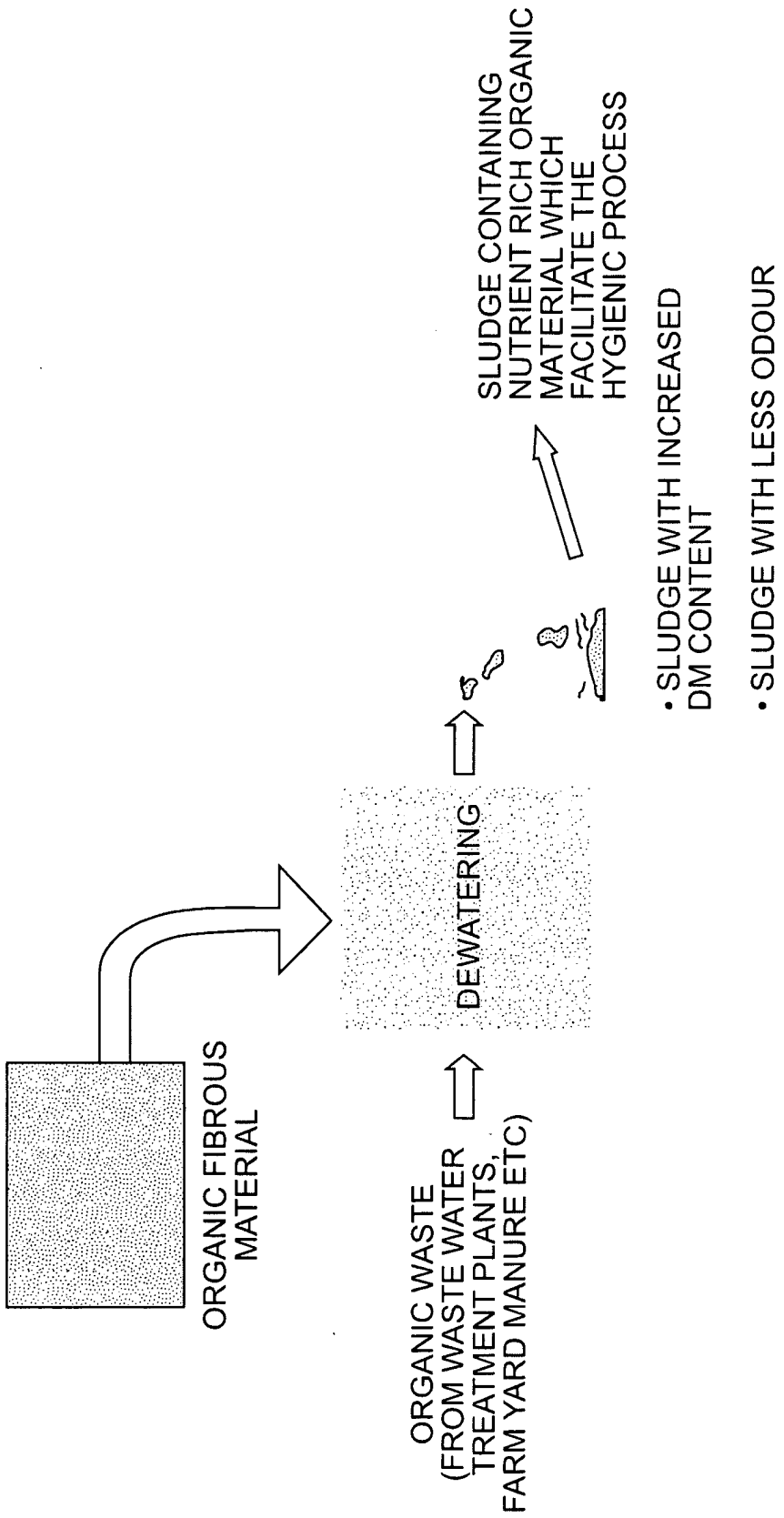
ORGANIC FIBROUS MATERIAL
ORGANIC WASTE (FROM WASTE WATER TREATMENT PLANTS, FARM YARD MANURE ETC)
DEWATERING
• SLUDGE WITH INCREASED DM CONTENT
• SLUDGE WITH LESS ODOUR
SLUDGE CONTAINING NUTRIENT RICH ORGANIC MATERIAL WHICH FACILITATE THE HYGIENIC PROCESS

FIG. 12